Ovarian Cancer: pathophysiological Process And Diagnostics

An ovary is a reproductive gland part of the female reproductive system that is responsible for producing oocytes and the hormones estrogen and progesterone. An ovum is released from the ovary each month with the intention of meeting sperm in the fallopian tube, traveling to the uterus, and implanting for pregnancy. According to the American Cancer Society, “about 22,240 women will receive a new diagnosis of ovarian cancer” (“Key statistics for ovarian cancer”, 2018). Of those 22,240 women, more than half of them will lose the battle to this cancer. Not only is ovarian cancer one of the most common cancers a woman can develop, but it is also one of the most fatal.

Etiology and Risk Factors

Risk factors are conditions in which a person’s chance of obtaining a disease is increased and these conditions can be modifiable or unmodifiable. Some associated risk factors of ovarian cancer include women of older age, especially those experiencing menopause, family history, an earlier starting age of menstruation and a later age of beginning menopause, infertility issues, and the use of replacement hormones (McCully & Perry-Philo, 2015, p. 997). Lifestyle influences or modifiable risk factors like a poor diet and decreased physical activity also play a role in cancer. But, the biggest risk factor is gene mutations that are inherited and can be identified by genetic testing. The BRCA gene makes tumor suppressor proteins and having a mutation in this gene increases the likelihood of developing ovarian cancer. One way to decrease the chances of developing ovarian cancer is the use of oral contraceptives. This keeps the menstruation cycle regular and “results in less ovulation during a woman’s lifetime” (Nezhat, Apostol, Nezhat, C., & Pejovic, 2015, p. 263).

Pathophysiological Process

Any type of cancer beings by the uncontrollable replication of abnormal cells. Ovarian cancer is malignant which means that these abnormal cells travel to other parts of the body rather than staying in the ovary. There are three different classifications of ovarian cancer and they include epithelial, stromal, and germ cell (Nezhat, Apostol, Nezhat, C., & Pejovic, 2015, p. 262).

The most common type of ovarian cancer begins at the epithelium or tissue that encases the ovary. These epithelial cells multiply quickly and it is extremely easy for these cells to travel to other places in the body. Stromal cells are responsible for producing the hormones estrogen and progesterone and these tumors are located inside the ovary and develop from connective tissue. Lastly, germ cell tumors are cells that are responsible for reproduction and mature into an ovum. Little is known about the beginning formation and early stages of these tumors because they are asymptomatic until the tumors metastasize and travel elsewhere. The signs and symptoms are related to the later development of the disease.

Clinical Manifestations and Complications

Clinical manifestations of ovarian cancer usually don't become apparent until cancer metastasizes and is at its later stages. This is why ovarian cancer has such a poor prognosis and is known as an insidious killer. The most common signs and symptoms experienced are weight loss, trouble eating, bloating, abdominal/pelvic pain, and frequency and urgency regarding urination. These symptoms are very vague and could happen normally in a healthy individual which is a reason why someone wouldn't immediately go get checked if one of them is present. These clinical manifestations become persistent and more problems start to develop including fatigue, back pains, pain during intercourse, constipation, menstruation changes, and abdominal edema (Nezhat, Apostol, Nezhat, C., & Pejovic, 2015, p. 264). If the cancer isn't caught early, which it usually isn't, then many complications can arise. The cancer cells will travel to other parts of the reproductive system and even throughout the whole body. This can cause a woman to lose her reproductive organs and make it impossible to have children which can take a huge emotional toll on some families. Also, if the reproductive organs are removed during surgery, the patient, no matter what age, will experience menopause if they haven't done so already. And of course, death is the most extreme result of ovarian cancer, which is sadly a common occurrence.

Diagnostics

Women living with ovarian cancer for long periods of time before going to the doctor for the abnormalities they are noticing. Since it doesn't usually get detected until its later stages, it is extremely important that women get yearly pelvic examinations. During this exam, a physician will palpate the vagina to make sure the anatomy is normal and that there are no obvious masses or other abnormalities. If something abnormal is found during an exam it is common to then use imaging to confirm the findings. Some imaging that may be used is a CT scan, ultrasound, and MRI. These images allow the physician to view the ovaries since they cannot be viewed with a physical exam. In addition, blood can be drawn to check for the tumor marker CA-125. Tumor markers are substances that are made by cancer cells that travel throughout the blood that can indicate a certain type of cancer (McCully & Perry-Philo, 2015, p. 997). With the physical examination, imaging, and a blood test, ovarian cancer can then be diagnosed.

Conclusion

In conclusion, ovarian cancer has impacted many women's lives and continues to do so. Since there are many risk factors for this disease and since it is usually detected at later stages it is important to keep up with physical examinations and early screening methods. Treatment for ovarian cancer is usually surgical remover of the tumor and chemotherapy. The surgical removal could result in the removal of just the tumor, one or two ovaries, or even the removal of the ovaries along with the uterus. Any type of surgery is difficult but especially one where it may seem like the patient's womanhood is being lost. When a woman loses a reproductive organ, it can do a great amount of emotional damage for her and those close to her. This is why it is essential to consider the holistic care of a patient experiencing the physical and emotional pain of this insidious killer called ovarian cancer.